

**REPORT TO THE NEW YORK STATE CABBAGE RESEARCH ADVISORY
COMMITTEE AND RESEARCH ASSOCIATION, Nov. 1998**

PROJECT TITLE: HOST PLANT RESISTANCE IN BRASSICA FOR FLEA
BEETLES AND CABBAGE MAGGOTS

PRINCIPAL INVESTIGATOR: A. M. SHELTON, Professor of Entomology
E. D. Earle, Professor of Plant Breeding

Flea Beetles.

Six plant cuttings were propagated from each of 4 and 10 first and second backcross lines, respectively. The new plant lines were maintained in an experimental greenhouse (23 -27°C) at NYSAES. The parental lines, *Sinapis alba* and *Brassica oleracea* (cv. Rapid Cycling and Green Comet) were grown from seeds. Each parent and backcross line was challenged with flea beetles. Field-collected flea beetles were kept at 3.5°C before use. Given that flea beetles prefer to feed along leaf edges, a single clip-on insect cage (32 mm diam.) was fastened with Handi-Tak[®] onto the edge of a leaf so that the leaf occupied half the area of cage. These cages were fastened onto 2 randomly-chosen leaves on 3 plants from each line. Flea beetles were lightly sedated with CO₂ and 5 beetles were added to each cage. Leaf damage was assessed after 2 days which ensured that any observed damage was due to inherent plant resistance and not a lack of feeding preference by the beetles. The leaves were scanned and area damage compared between the lines.

All lines, including *S. alba*, had feeding damage by flea beetles which indicated an absence of any plant resistance. Previous reports had indicated that *S. alba* was resistant to flea beetle feeding, but our data indicate that when this “resistance” was observed in the field in these reports it was probably a case of the beetles not preferring this species when given a choice. In most commercial situations, however, flea beetles are not given a choice so such “resistance” would likely not stand up.

Cabbage Maggot.

We will be pursuing this aspect during the winter and spring.

For a printed copy of the entire report, please contact the NYS IPM office at:

IPM House
630 W. North St.
New York State Agricultural Experiment Station
Geneva NY 14456
315-878-2353